AMENDMENT TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An ArF excimer laser device which connects to an output terminal of a magnetic pulse compression circuit comprising:

a pair of laser discharge electrodes located within the laser chamber; ~~and~~

a peaking condenser connected in parallel with the pair of laser discharge electrodes; and

a means for providing an output waveform of the laser pulse having a bifurcated form comprising a front half peak and a back half peak,

wherein, if the peak value of the front half peak is P_1 and the peak value of the back half peak is P_2 and the (proportion of the pulse back half peak) = $P_2 / (P_1 + P_2) \times 100$ (%), then the (proportion of the pulse back half peak) is 50% or more.

2. (Currently Amended) The ArF excimer laser device as claimed in claim 1, further comprising means for providing a ~~wherein~~ a primary current that injects energy from the magnetic pulse compression circuit through the peaking condenser into the discharge electrodes; and

a means for providing secondary current that injects energy into the discharge electrodes from a ~~the~~ condenser used to charge the peaking condenser in the final stage of the magnetic pulse compression circuit,

wherein the primary current and secondary current are combined, and

wherein a resonance cycle of the secondary current is set at 3 to 6 times a resonance cycle of the primary current, such that a first half cycle of the discharge resonance current waveform of the primary current combined with the secondary current, when it reverses polarity, and the succeeding 2 half cycles form one [[1]] pulse of laser oscillation activity.

3. (Original) The ArF excimer laser device as claimed in claim 1, wherein a FWHM of the laser pulse output waveform is 20 ns or longer, and a persistence of the output laser pulse is 50 ns or longer.

4. (Original) The ArF excimer laser device as claimed in claim 1, wherein the number of round trips in the beam resonator is five or more.

5. (Currently Amended) The ArF excimer laser device as claimed in claim 1, wherein the magnetic pulse compression circuit has a magnetic pulse compression section comprising a semiconductor switch and one or more stages of condenser and magnetic switch,

and the capacitance Cp of the peaking condenser and the capacitance Cn of a ~~the~~ condenser that charges the peaking condenser in the final stage of the magnetic pulse compression circuit are in a proportion such that Cp/Cn does not exceed 0.75.

6. (Currently Amended) The ArF excimer laser device as claimed in claim 1, further comprising means for providing ~~wherein~~ a partial pressure of Ar in the laser chamber that is 3% or less.

7. (Currently Amended) The ArF excimer laser device as claimed in claim 1, further comprising means for providing ~~wherein~~ a pressure of all gases in the laser chamber that is 3.5 atmospheres or less.

8. (Original) The ArF excimer laser device as claimed in claim 1, wherein the inter-electrode gap of the discharge electrodes is no more than 17 mm.

9. (Previously Presented) The ArF excimer laser device as claimed in claim 1, wherein reflectivity of an output mirror of a beam resonator located in the laser chamber is at least 50%.

10. (Currently Amended) The ArF excimer laser device as claimed in claim 1, wherein the magnetic pulse compression circuit has a magnetic pulse compression section comprising a semiconductor switch and one or more stages of a condenser and a magnetic switch;

an inductance of a circuit loop comprising the peaking condenser and the main discharge electrodes is from 4 to 8 nH;

a total gas pressure in the laser chamber is from 2.5 to 3.7 atmospheres;

a partial pressure of fluorine is no more than 0.1%;

a rise time until breakdown of the voltage impressed on the main discharge electrodes is from 30 to 80 ns; and

a capacitance Cp of the peaking condenser and a capacitance Cn of a ~~the~~ condenser that charges the peaking condenser in the final stage of the magnetic pulse compression circuit are in a proportion such that $0.45 < Cp/Cn < 0.75$.

11. (Original) The ArF excimer laser device as claimed in claim 10, wherein the capacitance Cp of the peaking condenser is less than 10 nF.

12. (Currently Amended) A fluorine laser device which connects to an output terminal of a magnetic pulse compression circuit comprising:

a pair of laser discharge electrodes located within a laser chamber; ~~and~~

a peaking condenser connected in parallel with the pair of laser discharge electrodes; and

a means for providing an output waveform of the laser pulse,

wherein the ~~an~~ output waveform of the laser pulse has a bifurcated form comprising a front half peak and a back half peak and, if the peak value of the front half peak is P_1 and the peak value of the back half peak is P_2 and the (proportion of the pulse back half peak) = $P_2 / (P_1 + P_2) \times 100$ (%), then the (proportion of the pulse back half peak) is 50% or more.

13. (Currently Amended) The fluorine laser device as claimed in claim 12, further comprising a means for providing ~~wherein~~ a primary current that injects energy from the magnetic pulse compression circuit through the peaking condenser into the discharge electrodes;

and a means for providing a secondary current that injects energy into the discharge electrodes from a ~~the~~ condenser used to charge the peaking condenser in the final stage of the magnetic pulse compression circuit,

wherein the primary current and secondary current are combined, and

wherein a resonance cycle of the secondary current is set at 3 to 6 times a resonance cycle of the primary current, such that the first half cycle of the discharge resonance current waveform of the primary current combined with the secondary current, when it reverses polarity, and the succeeding 2 half cycles form one [[1]] pulse of laser oscillation activity.

14. (Currently Amended) A KrF excimer laser device which connects to an output terminal of a magnetic pulse compression circuit comprising:

a pair of laser discharge electrodes located within a ~~the~~ laser chamber; ~~and~~

a peaking condenser connected in parallel with the pair of laser discharge electrodes; and

a means for providing an output waveform of the laser pulse,

wherein the ~~an~~ output waveform of the laser pulse has a bifurcated form comprising a front half peak and a back half peak and, if the peak value of the front

half peak is P_1 and the peak value of the back half peak is P_2 and the (proportion of the pulse back half peak) = $P_2 / (P_1 + P_2) \times 100$ (%), then the (proportion of the pulse back half peak) is 50% or more.

15. (Currently Amended) The KrF excimer laser device as claimed in claim 14, further comprising a means for providing ~~wherein~~ a primary current that injects energy from the magnetic pulse compression circuit through the peaking condenser into the discharge electrodes; and

a means for providing a secondary current that injects energy into the discharge electrodes from a ~~the~~ condenser used to charge the peaking condenser in the final stage of the magnetic pulse compression circuit,

wherein the primary current and secondary are combined, and

wherein a resonance cycle of the secondary current is set at 3 to 6 times a resonance cycle of the primary current, such that the first half cycle of the discharge resonance current waveform of the primary current combined with the secondary current, when it reverses polarity, and the succeeding 2 half cycles form one [[1]] pulse of laser oscillation activity.